

REMARKS/ARGUMENTS

Claims 1, 25, 28, 33, 36, 39, 40 and 42 have been amended. Claims 2, 4, 5, 9 to 24, 27, 32, 33 and 35 have been canceled, without prejudice to submitting in a continuing application. Therefore, claims 1, 3, 6 to 8, 25, 26, 28 to 31, 34 and 36 to 42 remain in this application.

Claims 1, 25, 28, 33, 39 and 42 have been amended as suggested by the Examiner to correct clerical errors and overcome Section 112 rejections.

Independent claims 1, 25, 28, 33 and 36 have been amended to more definitely define the resin particles to be dispersed particles. Each of claims 1, 25, 28, 33 and 36 had previously required the composition to be an aqueous dispersion. Also see page 4, lines 5 and 6, of the specification, for example, for support.

Claims 1, 25, 28 and 33 have been amended to more definitely define “hard particles” to have “a hardness of at least 6 on the Mohs scale.” Claim 40 has been amended to correct a clerical error.

The changes to the Specification have been objected to under 35 U.S.C. 132 for introducing new matter. The amendment to the Specification has been changed to delete reference to “alkoxy esters” and the alternative conjunction “or”. Therefore, the objection has been overcome.

Claims 1, 3, 7, 8, 25, 26, 28 to 31, 33, 34 and 39 to 42 have been rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The Examiner takes the position that there is no support for the “at least one plurality of polymeric particles”, “at least one plurality of colored particles” and “at

least one plurality of hard particles” in claims 1, 25, 28 and 33. The “at least one plurality” limitations have been deleted from the claims.

With regard to “the polyvinyl backbone of the polyvinyl chloride resin consist of ester pendant groups selected from the group consisting of ester pendant groups selected from the group consisting of an alkyl ester, alkoxy ester, carboxylic acid-containing ester” in claims 1 and 39, “alkoxy ester” has been deleted from claims 1 and 39. Support for the “carboxylic acid-containing ester” is found in UCAR product bulletin for AW-875. Note in the first paragraph “The pendant group, R₂, contains a high concentration of carboxylic acid groups.” In Figure 1, the R₂ group is attached to the polymer backbone through ester linkages.

With regard to “the polyvinyl chloride resin consist of ester pendant groups selected from the group consisting of ----carboxylic acid-containing esters----” in claims 25 and 40; to “the polyvinyl chloride resin is selected from the group consisting of ---chloride and carboxylic acid-containing vinyl polymers----“ in claims 28 and 41, and “the polyvinyl chloride resin consists of monomers selected from the group consisting of ----carboxylic acid-containing vinyl monomers----“ in claims 33 and 42, the above statement concerning the R₂ group applies.

Claims 33 and 42 have been amended to substitute “monomer units” for “monomers”.

Claims 33 and 34 have been rejected as being anticipated by or obvious in view of Takimoto et al. U.S. Patent No. 5,438,083 (Takimoto). However, Takimoto requires a colloidizing agent selected from the group consisting of a phosphoric acid compound, a molybdcic acid compound, a boric acid compound, and a silicic acid compound. Since

Attorney for Applicant contends that the additional material in the prior art is excluded by the recitation of “consisting essentially of” in the present claims, he concedes that he has the burden of showing that the introduction of one of these acids would materially change the characteristics of Applicant’s invention in accordance with In re De Lajarte, 337 F.2d 870, 143 USPQ 256 (CCPA 1964).

As held by the De Lajarte Court in the carryover paragraph on pages 874 and 875,

“appellant has the burden of showing the basic or novel characteristics of his insulting glass. He has met this burden by pointing out in his specification and claims the great increase in resistance to perforation resulting from his composition.”

The present Applicant has met his burden in a similar manner. At page 3, lines 23 to 26, of the specification, Applicant states:

“The compositions described herein including a combination of PVC, polyurethane and epoxy resins provide a better chemical embossing capability.... The chemical embossing is sharper and deeper, and the same (or better) wear performance is attained.”

If the Examiner would require more such as a comparison between the presently claimed composition and the composition of Takimoto, her attention is drawn to the next two paragraphs on page 875 of In re De Lajarte where the Court continued:

“The Board of Appeals and the solicitor contend that appellant has furnished no evidence that a critical difference in appellant’s emphasized characteristics would result from the introduction of small amounts of Lyle’s coloring agents, charcoal and sulfur. It is not clear what evidence they would require. It may be implied that the Patent Office would require appellant to duplicate the Lyle glass and compare its resistance to perforation with that of appellant’s glass.

“In the total absence of evidence in the record to indicate that the amber glass disclosed by Lyle would be expected to have desirable electrical insulating properties, we can find no justification for placing the burden on applicant to conduct experiments to determine the insulating properties of the colored glass disclosed in Lyle. Although there are only very slight differences between the Lyle composition and that sought to be patented, we cannot assume that these small differences are incapable of

causing a difference in properties. Appellant, in showing that his glass has basic novel properties (at least as far as the record is concerned), would appear to have met his burden.”

In similar manner, Takimoto does not disclose that his composition has better chemical embossing capabilities. Therefore, Applicant has met his burden and claims 33 and 34 should be allowed over Takimoto.

Claims 1, 3, 7, 8, 25, 26 and 28 to 31 have been rejected as being obvious over Takimoto alone or in combination with Applicant’s own admission, as evidenced by the Union Carbide Corporation Technical Product Bulletin. While it may be obvious to use the UCAR AW-875 resin as the polyvinyl resin in the Takimoto composition, there is no suggestion to eliminate the Takimoto colloidizing agent. Therefore, as discussed above, since Applicant has met his burden of showing that the introduction of one of these acids would materially change the characteristics of Applicant’s invention in accordance with In re De Lajarte, claims 1, 3, 7, 8, 25, 26 and 28 to 31 are allowable over Takimoto or the combination of Takimoto and Applicant’s admission.

Claims 28 to 31, 33 and 34 have been rejected as being obvious over Ruske. The Examiner is correct in that it is the position of Attorney for Applicant that Ruske does not teach the combination of polyvinyl chloride resin, polyurethane resin and epoxy resin.

As to column 1, lines 19 to 35, Ruske lists a number of plastics that may be colored by his anthraquinoneoxadiazole. In the paragraph, he describes two types of plastics. In the first sentence of the paragraph Ruske lists a number of “organic thermoplastic materials” including polyvinyl chloride, polystyrene, acrylonitrile, polyolefins, polyamides and polycarbonates. Ruske does not teach mixing these organic

thermoplastic materials and he does not use the term “resin” to describe these organic thermoplastics.

In the second sentence of the paragraph, Ruske lists “[o]ther plastics” which may be colored including silicone resins, condensation resins such as amino resins, polyaddition resins, alkyd resins, and “also surface coatings which contain one or more than one of the said resins in an organic solvent or in the form of an aqueous organic emulsion.”

(Emphasis supplied.) While Ruske teaches mixing the “said resins,” clearly, “said resins” refers to the “[o]ther plastics” in the second sentence and not to the “organic thermoplastic materials” listed in the first sentence. He does not teach mixing the two types of plastics.

The Examiner looks to claim 1 “which recites the coating or plastic material is a polymer selected from the group consisting of at least polyvinyl chloride, amino resins based on urea or melamine and formaldehyde, epoxy resins and polyurethane resins,” at the top of page 11 of the Office Action mailed January 26, 2005 (“the latest Office Action), for a suggestion that the polyvinyl chloride and epoxy and polyurethane resins may be mixed. Firstly, claim 1 of Ruske does not include the phrase “at least,” and secondly, the Markush group of claim 1 is “[o]ne acceptable form of alternative expression.” See MPEP Section 2173.05(h), subsection I, first paragraph.

This subsection of the MPEP teaches that “wherein R is a material selected from the group consisting of A, B, C and D” is the same as “wherein R is A, B, C or D.” See the paragraph before the subheading “Subgenus Claim.” Therefore, the limitation of Ruske claim 1 is the same as the “polymer is polyvinyl chloride, ... amino resins based on urea

or melamine and formaldehyde, epoxy resins, polyurethane resins or alkyd resins.” The alternative expression of Ruske claim 1 does not teach or suggest a mixture.

Claim 1 of Ruske merely lists a number of plastics which can be colored by Ruske’s anthraquinoneoxadiazole. The Examiner’s contention that “a polymer selected from the group consisting of ... polyvinyl chloride, amino resins based on urea or melamine and formaldehyde, epoxy resins and polyurethane resins” suggests combining polyvinyl chloride, epoxy resin and polyurethane resin, as required by the present claims, is the same as saying that “a drink selected from the group consisting of beer, water, lemonade and milk” suggests combining beer, lemonade and milk.

If Ruske intended to include mixtures of the polymers listed in claim 1, he could have concluded the Markush group with the phrase “or mixtures thereof.” Since he did not do so, it requires improper hindsight reasoning to include such a concept. Therefore, claims 28 to 31, 33 and 34 are allowable over Ruske.

Near the top of page 11 of the latest Office Action, the Examiner reminds the Attorney for Applicant “that a reference is evaluated, as a whole for what it fairly teaches and is not limited to just bits and pieces.” What Ruske fairly teaches, as a whole, is that anthraquinoneoxadiazole can be used to color a number of plastics. It does not suggest or provide a motive to combine the organic thermoplastic materials and the other plastics, which Ruske clearly treats as two different types of materials. Epoxy and polyurethane are mentioned in Ruske only at column 1, lines 31 and 32, and in claims 1 and 6. Since there is no teaching or suggestion to combine the organic thermoplastic materials and the other plastics, there is no teaching or suggestion to combine polyvinyl chloride and

polyurethane resin or polyvinyl chloride and epoxy resin, as required by the present independent claims, claims 28 to 31, 33 and 34 are allowable over Ruske.

Further, independent claims 28 and 33, from which claims 29 to 31 and 34 depend, have been amended to more clearly require the resin particles, including the polyvinyl chloride resin particles to be dispersed in water. As known to those of ordinary skill in the art, the thermoplastic materials listed in the first sentence of the paragraph are incompatible with water and cannot be dispersed. See the Declaration of Dong Tian, which was previously filed. Therefore, claims 28 to 31, 33 and 34 are allowable over Ruske for this reason as well.

Claims 1, 3, 6 to 8, 25, 26, 28 to 31, 33, 34 and 36 to 42 have been rejected as being obvious over Kotera. The Examiner is correct in her analysis that Attorney for Applicant's position is that the polyester resin of Kotera is precluded by the "consisting essentially of" clause of the present claims. As argued above with respect to Takimoto, Applicant has met his burden of showing that the polyester of Kotera would materially change the characteristics of Applicant's invention in accordance with In re De Lajarte and claims 1, 3, 6 to 8, 25, 26, 28 to 31, 33, 34 and 36 to 42 are allowable over Kotera.

Further, with respect to claim 6, there is no teaching or suggestion in Kotera of using two curing agents which promote cure at temperatures at least 25°C apart. Therefore, claim 6 is allowable over Kotera for this reason as well.

Claims 28, 29 and 33 have been rejected as being anticipated by or obvious over Bontinck. The Examiner is correct in her analysis that Attorney for Applicant's position is that the chain-pendant acetoacetoxyalkyl ester group of Bontinck is precluded by the "consisting essentially of" clause of the present claims. As argued above with respect to

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Takimoto, Applicant has met his burden of showing that the chain-pendant acetoacetoxyl ester group of Bontinck would materially change the characteristics of Applicant's invention in accordance with In re De Lajarte, and therefore, claims 28, 29 and 33 are allowable over Bontinck.

Applicants submit that the claims are in a condition for allowance. Therefore, early consideration and allowance are respectfully requested.

Respectfully submitted,

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Date

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